ELEMENT 125: SCITUATE RESERVOIR WATERSHED MANAGEMENTPLAN

01 INTRODUCTION

The State Planning Council adopted the Scituate Reservoir Watershed Management Plan as Element 125 of the State Guide Plan on December 13, 1 990. The plan was prepared with a Governor's task force comprised of representatives from the Governor's Policy Office; the watershed communities of Foster, Glocester, Johnston, and Scituate; the Providence Water Supply Board; and the state Departments of Administration (Division of Planning), Environmental Management, Health, and Transportation.

During the course of its work, the task force produced several technical reports and successful legislative proposals. These included:

- The Public Drinking Water Protection Act of 1987 as amended, which established a surcharge of 2.3 cents per 100 gallons to be added to drinking water bills for the purpose of protecting the quality of the Scituate Reservoir and other state drinking water supplies.

- The Septic System Maintenance Act of 1987, which enables cities and towns to adopt ordinances for the purpose of septic system maintenance.

- A 1990 amendment to the Drinking Water Contamination Act, increasing the fine for violations from $20 to $5,000 per day per violation.

- Provision for water quality protection in the 1991 zoning enabling act.

- Waste Water Management Districts... A Starting Point, a report by the Division of Planning that explains how to establish a septic system maintenance program, with a model ordinance.

- Road Salt Management Strategy, by the Division of Planning, recommending ways to reduce the impacts of road salt on water quality.

- A reduced road salt application program tested by RIDOT in 1988-1989.

- Water Quality Assessment - a report by DEM documenting the existing quality of the Scituate Reservoir.

The plan was initiated because of concerns about development trends and proposed highway upgrading in the watershed. The purpose of the plan is to recommend policies and actions to insure the long-term protection of water quality in the Scituate Reservoir watershed--including reservoirs, their tributaries, and groundwater.

02 ISSUES ADDRESSED

The primary issues affecting the Scituate Reservoir, the source of drinking water for approximately half of the state's population, are the rapid growth rate and changing land use patterns that have been occurring within the watershed. These rural communities are on the fringe of the urban development that has been emanating from the Providence Metropolitan Area. Population increased by an estimated 25 percent in Foster during the 1980s; 38 percent in Glocester; 13 percent in Scituate.

The Surface drainage basin or watershed for the Scituate Reservoir (see Figure 125(01)) covers 92.8 square miles, of which the Providence water supply Board owns and protects approximately 2.5 percent. That leaves 7,5 percent of the watershed or 69 square miles in private ownership and subject to development pressures.

Although the Scituate Reservoir system is currently a high-quality drinking water supply, some contamination linked to existing development has already been documented in reservoir tributaries. This is a serious concern, particularly since the watershed is still rural, with only 9 percent of the area developed.

The watershed towns of Foster, Glocester, and Scituate have clearly recognized the sensitive nature of this resource and have all adopted rural residential zoning densities in most of the watershed. Despite the earnest efforts of local governments, of the Providence Water Supply Board, and of state agencies, the existing level of protection provided to the Scituate Reservoir appears to be inadequate to insure the long-term maintenance of a high-quality drinking water supply.

03 GOALS

The goals of the plan are to:

- Develop more effective means to mitigate existing water quality contamination sources.
- Determine compatible land uses, densities, and development controls necessary to protect water quality from future growth.
- Devise strategies and funding sources for the implementation of the watershed protection plan.

04 RECOMMENDATIONS

The Governor's task force formulated over 175 recommendations. Examples follow.

A. Existing water quality contamination sources should be controlled.

1. All communities should adopt a mandatory septic system maintenance program within the watershed area.

2. Communities or sewer authorities that receive DEM funding for wastewater treatment systems should be required to accept septage from unsewered Rhode Island communities, as long as they can do so without exceeding the septage design capacity or violating applicable state or federal regulations.

3. DEM should develop and implement stormwater runoff control regulations for the watershed.

4. State and municipal construction activities in the watershed should comply with the best management practices described in the revised Rhode Island Soil Erosion and Sediment Control Handbook. Responsibility should be placed on the contractor, and a budget and penalties for noncompliance should be included in the contract.

5. All municipal and state salt storage piles should be adequately covered to mitigate impacts to ground and surface water.

6. In the event that sodium levels continue to rise and approach 20 ppm concentration in the Scituate Reservoir, RIDOT and all watershed communities should reduce sodium application rates in the watershed. A premix of four parts sodium chloride to one part calcium chloride should be considered to reduce sodium loadings by 20 percent.

7. Watershed towns should require stringent performance standards for junkyards and for businesses that use or store significant quantities of hazardous materials in the watershed.

8. DEM should be given authority to regulate junkyards.

9. RIDOT and municipal governments should give a high priority to making necessary safety improvements to roads within the watershed.

10. The Final Environmental Impact Statement for the proposed US-6 upgrade should thoroughly assess the feasibility of diverting outside of the watershed some interstate vehicles that transport hazardous materials.

    Appropriate design features capable of containing spills of hazardous materials should be included for the US-6 upgrade.

11. The State Police, RIDOT, and Federal Highway Administration should continue to work together to enforce strictly motor carrier safety and hazardous material transport regulations within the watershed.

12. The hazardous spill abatement program developed by the Rhode Island Emergency Management Agency should be implemented by all state and municipal agencies with a role to play in clean-up operations.

13. Public education campaigns should be developed on use of fertilizers and pesticides.

B. Water quality protection programs should be strengthened to make them more effective.

1. DEM should revise its septic system and underground storage tank regulations to further protect drinking water quality.

2 DEM should make greater efforts to enforce programs such as septic system and wetlands regulations.

C. Watershed communities should use their land use controls, and adopt more innovative land use management techniques, to accommodate future development in a way that avoids degradation of water quality. Approaches should include the following.

1. Maintain minimum residential lot sizes in Foster, Glocester, and Scituate; and increase the size in Cranston and Johnston portions of the watershed to 2.75 acres to be consistent with the minimum in Scituate.

2. Provide for cluster development, so that developers can work with, instead of against, constraints of the land.

3. Prohibit or strictly limit new commercial development along US-6 and other major roads in the watershed, using highway overlay districts.

4. Prohibit new landfills and other land uses in the watershed that are not compatible with water quality protection (these uses are specified in the plan).

5. Require site plan review for all commercial, industrial, and institutional uses proposed to be located in the watershed.

6. Incorporate into zoning ordinances a hierarchy of appropriate watershed land uses, with development standards (described in the plan).

7. Establish water quality protection zones in areas with severe high water tables, 0-18 inches from the surface, and high water tables, 19-36 inches from the surface (development standards for these areas are described in the plan).

8. Adopt nonpoint source control measures such as stormwater runoff, erosion and sedimentation control, and underground storage tank regulations.

9. Make other specific zoning changes listed in the plan for each community.

D. Watershed communities and the Providence Water Supply Board should purchase the most critical watershed land, using less than fee-simple alternatives whenever possible. They should also encourage the formation of land trusts. RIDOT should develop criteria for scenic easements, which could be purchased along scenic highways.

E. Infrastructure policy should support watershed protection.

1. Municipal sewer systems should not be extended into or constructed in the Scituate Reservoir watershed. The only exception should be to mitigate an existing septic system pollution problem where it is not feasible to repair or replace failed septic systems. In the event that sewers are deemed necessary to mitigate a problem area, the sewer system should be designed to accommodate existing development only, with no reserve capacity to stimulate future growth. A legal entity must be held accountable for the proper operation and maintenance of the sewer system.

2. Municipal water systems should be allowed in the watershed only to serve an area with on-site well contamination problems or to permit a cluster development. Any

necessary water systems should be designed to serve existing development only and not used to sfirnulate growth.

3. New utility rights-of-way should not cross over, under, or through the Scituate, Regulating, Westconnaug, Barden, Ponagansett, or Moswansicut Reservoirs and should avoid any construction disturbance to reservoir tributaries. Herbicides should be used sparingly on new and existing utility rights-of-way, and best management practices should be followed to avoid impacts to water quality.

4. RIDOT should not construct any highways on new locations within the Scituate Reservoir watershed, with the exception of minor realignments for safety improvements. This recommendation is based on the Division of Planning's assessment that no new highways will be needed within the watershed for the foreseeable future to meet transportation needs, and on the Task Force's belief that new roads have the potential to stimulate new development and to adversely impact the water quality of the reservoir. This recommendation does not apply to the upgrading of LJS-6 and its associated new alignments, if new rights-of-way can be demonstrated, through the Environmental Impact Statement process, to provide net water quality benefits to the reservoir by providing a higher level of protection.

Existing roads should be upgraded, as necessary, within environm)ntal safeguards, to avoid the need for new roads. RIDOT should mitigate, to the extent feasible, any direct stormwater runoff discharges to reservoir tributaries as part of a major upgrade. DEM guidelines for the abatement of stormwater runoff impacts should be used.

F. Appropriate funding sources and strategies to implement the watershed plan should be established.

1. The surcharge on public drinking water should be increased to generate funds for implementation of a comprehensive watershed protection plan.

2. DEM should be given more authority and the resources for watershed protection.

3. DEM and the Division of Planning should provide technical assistance to watershed communities.

4. An existing state agency should be restructured to manage and protect the state's public water supplies [a Water Supply Management Division was established within DEM in 19911.

5. The Providence Water Supply Board should continue to promote broad participation in water supply management and protection. Over a longer time period, consideration should be given to expanding the membership of the Board to include representatives of the watershed communities (and also the user communities).